

Waste Recycling Through Commingled Recovery: the Summerland Heights Residential Development

Architects, developers, contractors and building owners are recognizing the need to incorporate resource conservation strategies in construction, renovation and demolition projects. In addition to serving as excellent examples of what can be accomplished, it is also important to acknowledge those groups and individuals that are breaking new ground.

Resource efficiency is applicable to many aspects of development, including building design, material selection and waste reduction. A large part of creating greater awareness of resource management, is the successful implementation of waste reduction strategies.

This case study was developed to illustrate how a single project can make a significant impact on reducing waste.



After receiving the Santa Barbara County Green Award in 1997, Investec Real Estate went on to win the California Integrated Waste Management Board's WRAP Award in 1999 for their implementation of an aggressive construction recycling program. Jim Van Derhyden, general contractor of the Summerland Heights residential development, worked closely with MarBorg Industries to design and

implement a jobsite recycling program that would divert the maximum amount of materials possible from the county landfill, and still keep disposal costs down.

By placing recycling bins in a number of locations around the site, 83% of total project wastes were collected for recycling. Like most developers, Investec was interested in meeting a tight time frame. By commingling recyclables in the same bin, job crew were able to spend less time handling waste. Separate containers were provided for unrecyclable debris and trash.



Total Waste Diversion:
22 tons per house
440 tons for total project
83% overall recycling rate

Disposal Cost Savings:
\$200 per house
\$4,000 for total project

Job-Site Diversion:

- **Wood**
6.5 tons per house
129 tons for total project

- **Concrete & Asphalt**
3,200 pounds per house
32 tons for total project

- **Rubble**
9,600 pounds per house
96 tons for total project

Materials Processing:
MarBorg Industries
mixed C&D debris loads
(included cardboard, wood,
concrete, metal & stucco):
183 tons for total project

Project Statistics:
50,000 sq. ft.
(20 homes, avg. 2,500 sq. ft.)

Location: Summerland, CA

Developer
Investec Real Estate Companies
200 E. Carrillo Street,
Suite 200
Santa Barbara, CA 93101
(805) 962-8989

All the materials—including wood, metal, drywall, cardboard, paper, asphalt, and concrete—were collected in 20 cubic yard roll-off containers and hauled to MarBorg's new construction and demolition materials recovery facility in downtown Santa Barbara. Once sorted, these materials are processed into a variety of end products, including concrete, roadbase, asphalt, fiberboard and paper, ground cover, compost, and mulch.



During the first phase of the project, the majority of waste was wood scraps and cutoffs. As drywall was installed, the wastestream changed. Because the project unfolded in distinct phases, each generating a majority of only one or two types of materials, loads were easily separated at the MarBorg recovery facility. Corrugated cardboard was generated throughout the duration of the project, but increased during the end when appliances and finish fixtures were being installed. This was easily separated for recycling.

In addition to waste recycling, a range of resource conservation features were also built into the new homes. The 20-unit development includes several energy saving elements, such as high performance dual-glazed windows, circulating hot water system, and upgraded floor, wall, ceiling, and air duct insulation. Four acres of open were also incorporated into the community design.



Additional Information

The C&D Waste Reduction and Recycling series consists of 9 fact sheets, each focusing on a different aspect of waste management. Factsheets in this series include:

- What's in a Building: Composition Analysis of C&D Debris
- Onsite Source Reduction: Cutting the Scrap
- Setting up a Jobsite Recycling Program
- Deconstruction: New Opportunities for Salvage
- Calculating Effectiveness: The Waste Management Plan
- Reducing Waste for Building Owners
- Waste Recycling Through Commingled Recovery: the Summerland Heights Residential Development
- Deconstruction on Commercial Renovation Projects: the Victoria Street Presbyterian Sanctuary
- Source Reduction in Residential Remodeling: the Las Alturas Adobe

Visit these web sites for downloadable publications, listserv information, and links to other green building sites:

www.ciwmb.ca.gov
www.epa.gov/greenbuilding
www.aia.org

www.tjcog.dst.nc.us/dcwaste.htm
www.buildinggreen.com
www.oikos.org

www.EDCmag.com
www.materials4future.org
www.usgbc.org

The C&D Waste Reduction and Recycling Series is a joint project of the Santa Barbara County Solid Waste and Utilities Division, The Community Environmental Council, and The Sustainability Project.

For more information please contact the U.S. EPA, Region 9 Office of Pollution Prevention and Solid Waste at (415) 972-3282.

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